<u>REMARKS/ARGUMENTS</u>

Claims 5, 18, and 23-37 are pending in the application. Claims 5, 18, and 23-37 were rejected. Applicants, by this paper, amend claims 5, 18, 23-27, 29, 36 and 37. No new matter is added by amendment. Applicants respectfully request reconsideration and allowance of all pending claims.

Discussion of Rejections Under 35 U.S.C. §103

Claims 5, 25 and 28 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kliger in view of Wu.

To establish a *prima facie* case of obviousness, the prior art reference, or references when combined, must provide all of the claim limitations and must establish that it would be obvious for one of ordinary skill in the art to combine the references in a way that would successfully result in the claimed invention.

Applicants contend that, in light of the amendments that have been made to the claims as now presented, a *prima facie* case of obviousness cannot be established and Applicants respectfully traverse the rejections. In particular, Applicants contend that the references, neither alone nor in combination, teach nor suggest all claimed features. Even more particularly, Applicants contend that none of the references teach, suggest or motivate one of ordinary skill in the art to make the claimed invention, since none of the cited references teach a filter that reflects signals back into a splitter in order to allow terminals coupled to the tap ports (those ports other than the common port) within a network to communicate directly with one another. Nor would it otherwise be obvious to combine elements provided in the prior art in light of the failure of the prior art to provide the missing element of a filter tuned to reflect signals back into a splitter.

While Applicants are well aware that the use of filters has a long a rich history, the use of a filter in the present context would not be obvious. That is because use of a filter recited in the present claims would typically result in a relatively weak reflection that would not provide sufficient energy reflecting back into the network. This is true even without a splitter to attenuate the reflection, but all the more so when the splitter is in the path of the

reflected signal. Filters that are sharp enough to reflect sufficient energy in the signal are difficult to make and expensive to purchase. It is for this reason that Kliger has not disclosed the use of filters to perform this function. The benefits to using such filters are typically not considered to be achievable in a practical solution. However, what makes it possible for the present invention to take advantage of the use of such a filter as a means for reflecting the signals back into the network is the use of two techniques (used either separately or together) for dealing with the variable nature of the interference that occurs to the transmission of the data over the network. The first of these techniques is known as "bitloading" and is disclosed on page 18, line 12, et al. of the present application. In accordance with the technique,

> Higher SNR channels can support higher data capacity. Frequency bins occupying parts of the channel where the SNR is high can be used to transmit more bits. Each carrier may be modulated with a different order constellation, where higher SNR frequencies can bear a higher order constellation, and the resulting closer spacing of the constellation points. Frequencies with the lower SNR use lower order constellation such as QPSK. (Original Specification page 18, line 12-19).

The second of these techniques is referred to as "power control". This term is used by those skilled in the art to describe several different techniques, however in this case the term is used to refer to the technique described on page 18 at lines 21-28, which states that:

> The power in individual frequency bins can be adjusted to compensate for insertion loss that varies as a function of frequency. The power level in regions of the channel can be altered by scaling the complex valued vector for the bins where power adjustment is needed before applying the inverse Fourier transform. **In order to avoid interference with certain bands in the RF spectrum, the power level of certain bins can be reduced to zero**.

Accordingly, Claim 5 has been amended to recite the use of the bitloading technique together with the filter and a Claim 24 recites the use of power control together with the filter.

It should be noted that Claim 18, 23 and 24 depend from Claim 5 and accordingly, for the reasons stated above, each of these claims should are considered to be in condition for allowance.

Claim 25 has been amended to recite the filter as described above and the bitloading technique discussed in connection with the use of the filter. Since, as noted above, none of the references teach or suggest the filter recited in Claim 25, Applicants respectfully contend that Claim 25 is also in condition for allowance. Claims 26-28 and 36 depend from Claim 25 and so for the same reasons as noted with regard to Claim 25, Applicants respectfully content that Claims 26-28 and 36 are in condition for allowance.

Likewise, Claim 29 has been amended to recite the filter discussed above with respect to Claim 5 and thus Applicants contend that Claim 29 and those claims that depend therefrom (Claims 30-35, and 37) are in condition for allowance.

It should be noted that while the Examiner has cited several additional references (including: Manssen, Zhang, Ling, Mukherjee and Kapoor) in rejecting some of the dependent claims, none of these references teach or suggest the missing element of a filter turned to reflect signals back into the network from which they were transmitted together with the use of bitloading and/or power control to make use of the filter viable as described above and recited in the claims as now presented.

Accordingly, Applicants respectfully request reconsideration and allowance of claims 5, 25, 29 and those claims that depend therefrom.

<u>CONCLUSION</u>

Applicants believe that all claims pending in the application are allowable. Applicants therefore respectfully request that a timely Notice of Allowance be issued in this case.

This is a response to the Office Action mailed on 7/24/07, and as such, is submitted together with a request for a three month extension of time and the fee required for such a three month extension of time.

If there are any other fees due in connection with the filing of the response, please charge the fees to Deposit Account No. 502165. If a fee is required for an extension of time under 37 CFR 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned.

Respectfully submitted,

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